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CLAIMS:

1. A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a cover; and

a fuel permeation barrier layer attached to said cover to retard permeation of fuel through said cover.

2. A permeation barrier fuel module cover assembly as set forth in claim 1 wherein said cover includes a base wall, a raised portion extending axially from said base wall, and a skirt extending axially from said base wall opposite said raised portion.

3. A permeation barrier fuel module cover assembly as set forth in claim 2 wherein said fuel permeation barrier layer is disposed within said skirt.

4. A permeation barrier fuel module cover assembly as set forth in claim 2 wherein said fuel permeation barrier layer is disposed between said base wall and said raised portion.

5. A permeation barrier fuel module cover assembly as set forth in claim 1 wherein said fuel permeation barrier layer is made from a material of one of

a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE).

6. A permeation barrier fuel module cover assembly as set forth in claim 5 including a blade terminal connected to said cover.

7. A permeation barrier fuel module cover assembly as set forth in claim 6 wherein said blade terminal is molded into said cover.

8. A permeation barrier fuel module cover assembly as set forth in claim 6 wherein said blade terminal extends through said cover.

9. A permeation barrier fuel module cover assembly as set forth in claim 1 wherein said fuel permeation barrier layer has a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters.

10. A permeation barrier fuel module cover assembly as set forth in claim 1 including at least one fuel tube connected to said cover.

11. A permeation barrier fuel module cover assembly as set forth in claim 1 wherein said cover is made of a plastic material.

12. A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a cover having a base wall and a skirt extending axially from said base wall; and

a fuel permeation barrier layer attached to said cover inside of said skirt to retard permeation of fuel through said cover.

13. A permeation barrier fuel module cover assembly as set forth in claim 12 wherein said fuel permeation barrier layer has a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters.

14. A permeation barrier fuel module cover assembly as set forth in claim 12 including at least one fuel tube connected to said cover.

15. A permeation barrier fuel module cover assembly as set forth in claim 12 including a blade terminal connected to said cover.

16. A permeation barrier fuel module cover assembly as set forth in claim 15 wherein said blade terminal is molded into said cover.

17. A permeation barrier fuel module cover assembly as set forth in claim 15 wherein said blade terminal extends through said cover.

18. A permeation barrier fuel module cover assembly as set forth in claim 12 wherein said fuel permeation barrier layer is made from a material of one of a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE).

19. A permeation barrier fuel module cover assembly as set forth in claim 12 wherein said cover is made of a plastic material.

Sub a3 20. A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a cover having a base wall, a raised portion extending axially from said base wall, and a skirt extending axially from said base wall opposite said raised portion; and

a fuel permeation barrier layer disposed between said base wall and said raised portion inside of said skirt to retard permeation of fuel through said cover.